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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,340	06/25/2003	Nithyalakshmi Sampathkumar	MSFT-1732 (303414.1)	3992

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EXAMINER

LUDWIG, MATTHEW J

ART UNIT	PAPER NUMBER
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2178

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,340

Applicant(s)

SAMPATHKUMAR ET AL.

Examiner

Matthew J. Ludwig

Art Unit

2178

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the application filed 6/25/03.
2. Claims 1-3 and 5-22 are pending in the application. Claims 1, 7, and 21, are independent claims. Applicant has cancelled claim 4.
3. Claims 1-3 and 5-22 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kotsakis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-3 and 5-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evangelos Kotsakis, 'XSD: A Hierarchical Access Method for Indexing XML Schemata', Copyright 2002, pages 4: 168-201.**

In reference to independent claim 1, Kotsakis teaches:

A DCS matches a parameterized path expression if there is at least one simple path in the DCS which matches the parameterized path expression. If a matching path is returned by algorithm, then the parameterized path expression is matched against the DCS (compare to 'XML document having attribute and type information'). See page 180, Definition 3.6 through 3.9.

A merger DCS depicts a generic XML schema which combines two or more simpler DCSs. The introduction of the concept of merger DCS aims at limiting the initial search space by merging primitive DCSs into more general ones, which may then be used as matching targets against XML queries (compare to “an XSD inference engine, the XSD inference engine accepting the XML document as input to process the XML document to infer an XML schema definition”). See page 182, DCS Basic Operations.

The reference does not explicitly state the utilization of an inference engine, however, Kotsakis discloses a method of organizing semi-structured schemata in a hierarchical way and it may be viewed as a meta-schema organization (infer an XML schema). The XSD approach is based on clustering XML schemata rather than on classifying semi-structured sources such as XML documents. It would have been obvious to one of ordinary skill in the art, having the meta-schema organization methods of Kotsakis to provide an author with the ability to aggregate similar XML schemata into a merger schema allowing faster query processing.

In reference to dependent claim 2, Kotsakis teaches:

Figure 4(a) shows a merger DCS, which is obtained by merging the DCSs in Fig. 4(b) and (c). The merger DCS contains the union of the elements in the simpler DCSs. A merger DCS may be viewed as a bounding structure that unifies simpler DCSs. See Kotsakis, page 175.

In reference to dependent claim 3, Kotsakis teaches:

Algorithm 3.1 shows how to find whether a DCS tree matches a parameterized path expression. If a matching path is returned by Algorithm 3.1, then the parameterized path expression is matched against the DCS.

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In reference to dependent claim 5, Kotsakis teaches:

A merger DCS depicts a generic XML schema which combines two or more simpler DCSs. The introduction of the concept of merger DCS aims at limiting the initial search space by merging primitive DCSs into more general ones, which may then be used as matching targets against XML queries (compare to “an XSD inference engine, the XSD inference engine accepting the XML document as input to process the XML document to infer an XML schema definition”). See page 182, DCS Basic Operations.

In reference to dependent claim 6, Kotsakis teaches:

In a filter-and-refine XML query execution, the XSD access method restricts the search to a subset of XML documents, which is usually a subspace of the entire corpus. See Kotsakis, page 199.

In reference to claims 7-18, the claims recite similar limitations for performing the schema inference methods found in claims 1-6. Therefore, the claims are rejected along the same rationale.

In reference to claims 19-22, the claims recite the system comprising computer readable instructions used for performing the methods as claimed in 1-6. Therefore, the following claims are rejected along the same rationale.

Response to Arguments

Applicant's arguments filed 2/28/2006 have been fully considered but they are not persuasive.

Applicant argues on page 5 of the amendment that Kotsakis fails to disclose or suggest generating a schema definition based on an XML document, where the schema definition defines elements that appear in the XML document and attributes associated with the elements.

However, the examiner believes the schema directory taught by Kotsakis provides a hierarchical organization of XML documents in which structurally close schemata are merged. The language found within the independent claim, as presently claimed, fails to accurately describe how the elements are defined and how the attributes are associated with the elements. Kotsakis describes a document compound structure to represent the structural composition of XML documents. Kotsakis describes the merger DCS as depicting a generic XML schema (p. 182). The merger DCS contains all the paths found in any of the original DCSs. The reference provides a generic description of an element of an XML document based upon the merger of XML documents. Because the claim limitations are to be given their broadest reasonable interpretation within the scope of the art, the DCS merger as taught by Kotsakis provides

Conclusion

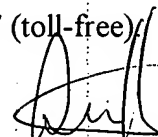
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Britton et al., USPN 6,856,992 filed (10/29/2001)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Ludwig whose telephone number is 571-272-4127. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ML
November 28, 2005

STEPHEN HONG
SUPERVISORY PATENT EXAMINER